

## ENGLISH TRANSLATION OF ORIGINAL SPECIFICATION

**Claims**

1. A coaxial line plug-in connection for transmitting microwave signals of a wavelength  $\lambda$ , comprising a socket and a plug, by means of which the ends of a coaxial line comprised of an inner conductor and an outer conductor surrounding the inner conductor, are coupled to each other, and a separating element of a dielectric material for galvanically separating at least the outer conductor.
2. The coaxial line plug-in connection according to claim 1, wherein the plug comprises a radially exterior lateral wall face, and the socket a radially interior lateral wall face, which wall faces, in the inserted state, lie opposite in a coupling zone spaced apart by the separating element.
3. The coaxial line plug-in connection according to claim 1, wherein the separating element is arranged in the socket.
4. The coaxial line plug-in connection according to claim 1, wherein the separating element consists at least of one of the materials of the PTFE, ceramics or glass group.
5. The coaxial line plug-in connection according to claim 2, wherein the separating element is arranged ring-shaped in the coupling zone between the exterior lateral wall face of the plug and the interior lateral wall face of the socket.
6. The coaxial line plug-in connection according to claim 5, wherein the ring-shaped separating element has a minimum wall thickness of 0.5 mm.
7. The coaxial line plug-in connection according to claim 2, wherein the coupling zone receiving the separating element has an optimum length of  $\lambda/4$  in the axial direction.
8. A coaxial line plug-in connection for transmitting microwave signals of a

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wavelength  $\lambda$ , coupling the ends of a coaxial line to be connected to each other, which coaxial line is comprised of an inner conductor and an outer conductor surrounding the inner conductor, with a socket and a plug comprised of one coaxial line end by a separating element of a dielectric material for galvanically separating at least the outer conductors.

9. The coaxial line plug-in connection according to claim 8, wherein the plug has a radially exterior lateral wall face comprised of an outer conductor, beyond which protrudes the inner conductor in a pin-shape, and the socket has a radially interior lateral wall face, which wall faces, in the inserted state, lie opposite each other in a coupling zone spaced apart by the separating element.

10. The coaxial line plug-in connection according to claim 8, wherein the separating element is arranged in the socket.

11. The coaxial line plug-in connection according to claim 8, wherein the separating element consists at least of one of the materials of the PTFE, ceramics or glass group.

12. The coaxial line plug-in connection according to claim 8, wherein the inserted state of the socket and the plug is ensured by means of a fastening flanged attached to the plug.

13. The coaxial line plug-in connection according to claim 9, wherein a dielectric material is arranged ring-shaped in the coupling zone between the exterior lateral wall face of the plug and the interior lateral wall face of the socket.

14. The coaxial line plug-in connection according to claim 13, wherein the ring-shaped dielectric material has a minimum wall thickness of 0.5 mm.

15. The coaxial line plug-in connection according to claim 9, wherein the coupling zone receiving the dielectric material has an optimum length of  $\lambda/4$  in the axial direction.

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16. A coaxial line plug-in connection for transmitting microwave signals of a wavelength  $\lambda$ , coupling the ends of a coaxial line to be connected to each other, which coaxial line is comprised of an inner conductor and an outer conductor surrounding the inner conductor, with a socket and a plug comprised of one coaxial line end by at least one separating element of dielectric materials for galvanically separating the outer conductor and the inner conductor.

17. The coaxial line plug-in connection according to claim 16, wherein the plug has a radially exterior lateral wall face comprised of an outer conductor, beyond which protrudes the inner conductor in a pin-shape, and the socket has a radially interior lateral wall face, which wall faces, in the inserted state, lie opposite each other spaced apart by a first separating element, where to follows a second coupling zone in which the pin-shaped inner conductor of the plug lies opposite a second interior lateral wall face of the socket spaced apart by a second separating element.

18. The coaxial line plug-in connection according to claim 16, wherein the separating element is arranged in the socket.

19. The coaxial line plug-in connection according to claim 16, wherein the separating element consists at least of one of the materials of the PTFE, ceramics or glass group.

20. The coaxial line plug-in connection according to claim 16, wherein the inserted state of the socket and the plug is ensured by means of a fastening flange attached to the plug.

21. The coaxial line plug-in connection according to claim 17, wherein in the first coupling zone between the exterior lateral wall face of the plug and the first radial interior lateral wall face of the socket, as well as in the second coupling zone between the pin-shaped inner conductor and the second radial interior lateral wall face of the socket, a separating element is in each case arranged pin-shaped.

22. The coaxial line plug-in connection according to claim 17,

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wherein the pin-shaped inner conductor is surrounded by a separating element.

23. The coaxial line plug-in connection according to claim 21, wherein the ring-shaped dielectric materials have a minimum wall thickness of 0.5 mm.

24. The coaxial line plug-in connection according to claim 17, wherein the coupling zones receiving the dielectric materials each have an optimum length of  $\lambda/4$  in the axial direction.

25. A socket for coupling two coaxial lines each comprised of an inner conductor and an outer conductor surrounding the inner conductor, and which are suited for transmitting microwave signals of the wavelength  $\lambda$ , one of which two coaxial lines can be plugged into the socket, a galvanic separation of the outer and inner conductors being effected by at least one separating element of a dielectric material, which separating element is present in the socket.

26. The socket according to claim 25, wherein the socket is directly attached to the waveguide for centrally coupling in the microwave signals in a waveguide.

27. A plug comprised of an outer conductor and an inner conductor protruding beyond the outer conductor in a pin-shape, for coupling two coaxial lines each comprised of an inner conductor and an outer conductor surrounding the inner conductor, and which are suited for transmitting microwave signals of a wavelength  $\lambda$ , the pin-shaped inner conductor being surrounded by a separating element of a dielectric material, whereby a galvanic separation of the inner conductors of the coaxial line is effected.

28. A galvanic separation using separating elements of dielectric materials in a socket or a plug for coupling ends of a coaxial line to be connected with each other, each comprised of an inner conductor and an outer conductor surrounding the inner conductor, and which are suited for transmitting microwave signals of the wavelength  $\lambda$ .